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Date:	January 12, 2004
To:	Examiner Karen Cochrane Carlson
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From:	Lyza Finuliar for Susan K. Sather
Our Ref. No.:	PF-0722 USN
Your Ref. No.:	10/031,915
Page(s):	50 , including cover sheet

Comments:

Docket No.: PF-0722 USN

Certificate of Transmission

I hereby certify that this paper is being facsimile transmitted to the attention of Examiner Karen Cochrane Carlson, Group Art Unit 1653, U.S. Patent and Trademark Office to Facsimile No. (703) 872-9306 on January 12, 2004.

By: _____ Printed: Lyza Finalia

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hillman et al.

Title: CELL CYCLE AND PROLIFERATION PROTEINS

Serial No.: 10/031,915 Filing Date: January 18, 2002

Examiner: Carlson, K. Group Art Unit: 1653

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

FEE TRANSMITTAL SHEET

Sir:

Transmitted herewith are the following for the above-identified application:

1. Response to Restriction Requirement (38 pp.);
2. Copy of Transmittal Letter indicating Claims Canceled (2 pp.);
3. Information Disclosure Statement (2 pp.);
4. List of References Cited PTO-1449 (1 pg.);
5. One (1) Reference; and
6. Certificate of Revocation of Power of Attorney and Appointment of New Attorneys (2 pp.).

The fee has been calculated as shown below.

Claims	Claims After Amendment	-	Claims Previously Paid For	=	Present Extra	Other Than Small Entity Rate	Fee	Additional Fee(s)	
Total	184	-	184	=	0	x$18.00	0	$	0
Indept.	2	-	3	=	0	x$86.00	0	$	0
First Presentation of Multiple Dependent Claims:						+290.00	0	$	0
							Total Fee:	$	0

X No additional Fee is required.

___ Please charge Deposit Account No. 09-0108 in the amount of: $ _____

The Commissioner is hereby authorized to charge any additional fees required under 37 CFR 1.16 and 1.17, or credit overpayment to Deposit Account No. 09-0108. **A duplicate copy of this sheet is enclosed.**

Respectfully submitted,
INCYTE CORPORATION

Date: January 12, 2004

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Docket No.: PF-0722 USN

Certificate of Transmission

I hereby certify that this paper is being facsimile transmitted to the attention of Examiner Karen Cochrane Carlson, Group Art Unit 1653, U.S. Patent and Trademark Office to Facsimile No. (703) 872-9306 on January 12, 2004.

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Commissioner for Patents
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Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT UNDER 35 U.S.C. 121

Sir:

This paper is responsive to the Restriction Requirement and Request for Election dated **December 12, 2003**, setting a **one (1) month** term for response.

Docket No.: PF-0722 USN

IN THE CLAIMS

This listing of the claims replaces all prior versions of the claims in the application.

Listing of the Claims

1. (Original) An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

a) an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54,

b) a naturally occurring amino acid sequence having at least 90% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54,

c) a biologically active fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14,

SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54, and

d) an immunogenic fragment of an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

2. (Original) An isolated polypeptide of claim 1 selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

3. (Original) An isolated polynucleotide encoding a polypeptide of claim 1.

4. (Original) An isolated polynucleotide encoding a polypeptide of claim 2.

5. (Original) An isolated polynucleotide of claim 4 selected from the group consisting of SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:74, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:95, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:104, SEQ ID NO:105, SEQ ID NO:106, SEQ ID NO:107, and SEQ ID NO:108.

6. (Original) A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 3.

7. (Original) A cell transformed with a recombinant polynucleotide of claim 6.

8. (Original) A transgenic organism comprising a recombinant polynucleotide of claim 6.

9. (Original) A method for producing a polypeptide of claim 1, the method comprising:

a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 1, and

b) recovering the polypeptide so expressed.

10. (Original) An isolated antibody which specifically binds to a polypeptide of claim 1.

11. (Original) An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:

a) a polynucleotide sequence selected from the group consisting of SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:74, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:95, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:104, SEQ ID NO:105, SEQ ID NO:106, SEQ ID NO:107, and SEQ ID NO:108,

b) a naturally occurring polynucleotide sequence having at least 70% sequence identity to a polynucleotide sequence selected from the group consisting of SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:74, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:95, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:104, SEQ ID NO:105, SEQ ID NO:106, SEQ ID NO:107, and SEQ ID NO:108,

c) a polynucleotide sequence complementary to a),

d) a polynucleotide sequence complementary to b), and

e) an RNA equivalent of a)-d).

12. (Canceled)

13. (Original) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

14. (Canceled)

15. (Original) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 11, the method comprising:

a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and

b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

16. (Original) A composition comprising an effective amount of a polypeptide of claim 1 and a pharmaceutically acceptable excipient.

17. (Original) A composition of claim 16, wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ

ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

18. (Canceled)

19. (Original) A method for screening a compound for effectiveness as an agonist of a polypeptide of claim 1, the method comprising:

a) exposing a sample comprising a polypeptide of claim 1 to a compound, and

b) detecting agonist activity in the sample.

Claims 20-21. (Canceled)

22. (Original) A method for screening a compound for effectiveness as an antagonist of a polypeptide of claim 1, the method comprising:

a) exposing a sample comprising a polypeptide of claim 1 to a compound, and

b) detecting antagonist activity in the sample.

Claims 23-24. (Canceled)

25. (Original) A method of screening for a compound that specifically binds to the polypeptide of claim 1, said method comprising the steps of:

a) combining the polypeptide of claim 1 with at least one test compound under suitable conditions, and

b) detecting binding of the polypeptide of claim 1 to the test compound, thereby identifying a compound that specifically binds to the polypeptide of claim 1.

26. (Original) A method of screening for a compound that modulates the activity of the polypeptide of claim 1, said method comprising:

a) combining the polypeptide of claim 1 with at least one test compound under conditions permissive for the activity of the polypeptide of claim 1,

b) assessing the activity of the polypeptide of claim 1 in the presence of the test compound, and

c) comparing the activity of the polypeptide of claim 1 in the presence of the test compound with the activity of the polypeptide of claim 1 in the absence of the test compound, wherein a change in the activity of the polypeptide of claim 1 in the presence of the test compound is indicative of a compound that modulates the activity of the polypeptide of claim 1.

27. (Canceled)

28. (Original) A method for assessing toxicity of a test compound, said method comprising:

a) treating a biological sample containing nucleic acids with the test compound;

b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 11 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 11 or fragment thereof;

c) quantifying the amount of hybridization complex; and

d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

29. (Previously Presented) A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 5, the method comprising:

a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,

b) detecting altered expression of the target polynucleotide, and

c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.

30. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:1.

31. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:2.

32. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:3.

33. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:4.

34. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:5.

35. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:6.

36. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:7.

37. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:10.

38. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:11.

39. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:12.

40. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:13.

41. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:14.

42. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:15.

43. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:17.

44. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:18.

45. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:20.

46. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:22.

47. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:23.

48. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:24.

49. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:25.

50. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:26.

51. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:28.

52. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:29.

53. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:30.

54. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:31.

55. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:32.

56. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:33.

57. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:34.

58. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:35.

59. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:36.

60. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:37.

61. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:38.

62. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:39.

63. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:41.

64. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:42.

65. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:43.

66. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:44.

67. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:45.

68. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:46.

69. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:47.

70. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:48.

71. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:50.

72. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:51.

73. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:52.

74. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:53.

75. (Previously Presented) A polypeptide of claim 1, comprising the amino acid sequence of SEQ ID NO:54.

76. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:55.

77. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:56.

78. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:57.

79. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:58.

80. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:59.

81. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:60.

82. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:61.

83. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:64.

84. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:65.

85. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:66.

86. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:67.

87. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:68.

88. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:69.

89. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:71.

90. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:72.

91. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:74.

92. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:76.

93. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:77.

94. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:78.

95. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:79.

96. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:80.

97. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:82.

98. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:83.

99. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:84.

100. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:85.

101. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:86.

102. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:87.

103. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:88.

104. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:89.

105. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:90.

106. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:91.

107. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:92.

108. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:93.

109. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:95.

110. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:96.

111. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:97.

112. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:98.

113. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:99.

114. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:100.

115. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:101.

116. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:102.

117. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:104.

118. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:105.

119. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:106.

120. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:107.

121. (Previously Presented) A polynucleotide of claim 11, comprising the polynucleotide sequence of SEQ ID NO:108.

122. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:1.

123. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:2.

124. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:3.

125. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:4.

126. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:5.

127. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:6.

128. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:7.

129. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:10.

130. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:11.

131. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:12.

132. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:13.

133. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:14.

134. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:15.

135. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:17.

136. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:18.

137. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:20.

138. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:22.

139. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:23.

140. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:24.

141. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:25.

142. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:26.

143. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:28.

144. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:29.

145. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:30.

146. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:31.

147. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:32.

148. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:33.

149. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:34.

150. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:35.

151. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:36.

152. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:37.

153. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:38.

154. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:39.

155. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:41.

156. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:42.

157. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:43.

158. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:44.

159. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:45.

160. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:46.

161. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:47.

162. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:48.

163. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:50.

164. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:51.

165. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:52.

166. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:53.

167. (Previously Presented) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:54.

168. (Previously Presented) A diagnostic test for a condition or disease associated with the expression of human cell cycle and proliferation proteins (CCYPR) in a biological sample comprising the steps of:

a) combining the biological sample with an antibody of claim 10, under conditions suitable for the antibody to bind the polypeptide and form an antibody:polypeptide complex; and

b) detecting the complex, wherein the presence of the complex correlates with the presence of the polypeptide in the biological sample.

169. The antibody of claim 10, wherein the antibody is:

a) a chimeric antibody,

b) a single chain antibody,

c) a Fab fragment,

d) a $F(ab')_2$ fragment, or

e) a humanized antibody.

170. (Previously Presented) A composition comprising an antibody of claim 10 and an acceptable excipient.

171. (Previously Presented) A method of diagnosing a condition or disease associated with the expression of human
cell cycle and proliferation proteins (CCYPR) in a subject, comprising administering to said subject an effective amount of the composition of claim 170.

172. (Previously Presented) A composition of claim 170, wherein the antibody is labeled.

173. (Previously Presented) A method of diagnosing a condition or disease associated with the expression of human cell cycle and proliferation proteins (CCYPR) in a subject, comprising administering to said subject an effective amount of the composition of claim 172.

174. (Previously Presented) A method of preparing a polyclonal antibody with the specificity of the antibody of claim 10 comprising:

a) immunizing an animal with a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46,

SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54, or an immunogenic fragment thereof, under conditions to elicit an antibody response;

b) isolating antibodies from said animal; and

c) screening the isolated antibodies with the polypeptide, thereby identifying a polyclonal antibody which binds specifically to a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

175. (Previously Presented) An antibody produced by a method of claim 174.

176. (Previously Presented) A composition comprising the antibody of claim 175 and a suitable carrier.

177. (Previously Presented) A method of making a monoclonal antibody with the specificity of the antibody of claim 10 comprising:

a) immunizing an animal with a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID

NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54, or an immunogenic fragment thereof, under conditions to elicit an antibody response;

b) isolating antibody producing cells from the animal;

c) fusing the antibody producing cells with immortalized cells to form monoclonal antibody-producing hybridoma cells;

d) culturing the hybridoma cells; and

e) isolating from the culture monoclonal antibody which binds specifically to a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

178. (Previously Presented) A monoclonal antibody produced by a method of claim 177.

179. (Previously Presented) A composition comprising the antibody of claim 178 and a suitable carrier.

180. The antibody of claim 10, wherein the antibody is produced by screening a Fab expression library.

181. The antibody of claim 10, wherein the antibody is produced by screening a recombinant immunoglobulin library.

182. (Previously Presented) A method for detecting a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54,in a sample comprising the steps of:

a) incubating the antibody of claim 10 with a sample under conditions to allow specific binding of the antibody and the polypeptide; and

b) detecting specific binding, wherein specific binding indicates the presence of a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23,

SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54, in the sample.

183. (Previously Presented) A method of purifying a polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54, from a sample the method comprising:

a) incubating the antibody of claim 10 with a sample under conditions to allow specific binding of the antibody and the polypeptide; and

b) separating the antibody from the sample and obtaining the purified polypeptide having an amino acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:20, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38,

SEQ ID NO:39, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53, and SEQ ID NO:54.

184. (Previously Presented) A microarray wherein at least one element of the microarray is a polynucleotide of claim 12.

185. (Previously Presented) A method for generating a transcript image of a sample which contains polynucleotides, the method comprising the steps of:

a) labeling the polynucleotides of the sample,

b) contacting the elements of the microarray of claim 184 with the labeled polynucleotides of the sample under conditions suitable for the formation of a hybridization complex, and

c) quantifying the expression of the polynucleotides in the sample.

186. (Previously Presented) An array comprising different nucleotide molecules affixed in distinct physical locations on a solid substrate, wherein at least one of said nucleotide molecules comprises a first oligonucleotide or polynucleotide sequence specifically hybridizable with at least 30 contiguous nucleotides of a target polynucleotide, said target polynucleotide having a sequence of claim 11.

187. (Previously Presented) An array of claim 186, wherein said first oligonucleotide or polynucleotide sequence is completely complementary to at least 30 contiguous nucleotides of said target polynucleotide.

188. (Previously Presented) An array of claim 186, wherein said first oligonucleotide or polynucleotide sequence is completely complementary to at least 60 contiguous nucleotides of said target polynucleotide.

189. (Previously Presented) An array of claim 186, which is a microarray.

190. (Previously Presented) An array of claim 186, further comprising said target polynucleotide hybridized to said first oligonucleotide or polynucleotide.

191. (Previously Presented) An array of claim 186, wherein a linker joins at least one of said nucleotide molecules to said solid substrate.

192. (Previously Presented) An array of claim 186, wherein each distinct physical location on the substrate contains multiple nucleotide molecules having the same sequence, and each distinct physical location on the substrate contains nucleotide molecules having a sequence which differs from the sequence of nucleotide molecules at another physical location on the substrate.

Docket No.: PF-0722 USN

REMARKS

Comments on the Pending claims

The pending claims on the Office Action Summary sheet are listed as "1-192." The correct pending claims are 1-11, 13, 15-17, 19, 22, 25-26, and 28-192. Claims 12, 14, 18, 20, 21, 23, 24, and 27 were canceled by Preliminary Amendment on the "Transmittal Letter" (page 1) filed January 18, 2002. A courtesy copy of the "Transmittal Letter" as shown in PAIR is provided.

Consequently: Groups 47-192 contain claims 3-7, 9, 11, 184-192, 76-121, and 122-167 (claim 12 having been previously canceled).

Groups 185-230 contain claims 13 and 15 (claim 14 having been previously canceled).

Groups 231-276 are deleted as claim 18 was previously canceled.

Groups 323-368 are deleted as claim 20 was previously canceled.

Groups 369-414 are deleted as claim 21 was previously canceled.

Groups 461-506 are deleted as claim 23 was previously canceled.

Groups 507-552 are deleted as claim 24 was previously canceled.

Groups 645-690 contain claim 29 (claim 27 having been previously canceled).

Comments on the Restriction Requirement

Applicants hereby elect, with traverse, to prosecute Group 76, which includes and is drawn to Claims 3-7, 9, 11, 105, 151, and 184-192 as they relate to polynucleotide sequences encoding claimed polypeptide sequence SEQ ID NO:36, which sequences include the claimed polynucleotide sequence SEQ ID NO:90.

Applicants reserve the right to prosecute the subject matter of non-elected claims in subsequent divisional applications.

Both the restriction requirement and the obligation to elect a single sequence for prosecution imposed by the Examiner are traversed for at least the following reasons.

I. The unity of invention standard ***must*** be applied in national stage applications

Section 1850 of the Manual of Patent Examining Procedure (original 8th edition, published August, 2001) (hereinafter "MPEP") provides:

> ... [W]hen the Office considers international applications ... during the national stage as a Designated or Elected Office under 35 U.S.C. 371, PCT Rule 13.1 and 13.2 will be followed when considering unity of invention of claims of different categories without regard to the practice in national applications filed under 35 U.S.C. 111....
>
> In applying PCT Rule 13.2 to ... national stage applications under 35 U.S.C. 371, examiners should consider for unity of invention all the claims to different categories of invention in the application and permit retention in the same application for searching and/or preliminary examination, claims to the categories which meet the requirements of PCT Rule 13.2....

Id at page 1800-60 to -61.

MPEP section 1893.03(d) reiterates the Examiner's obligation to apply the Unity of Invention standard PCT Rule 13.2 instead of U.S. restriction/election of species practice:

> Examiners are reminded that unity of invention (not restriction) practice is applicable ... in national stage (filed under 35 U.S.C. 371) applications.

Id at page 1800-149, column 1.

The present application, filed under 35 U.S.C. §371 is a national-stage application; the Examiner is therefore **required** to apply the unity of invention standard.

II. Specific provisions of the Administrative Regulations Under the PCT and the corresponding provisions of the MPEP strongly support a finding of unity of invention among all of the claims in the present case

A. Unity of Invention is accepted as between claims to polypeptide sequences and claims to the polynucleotide sequences which encode them

Example 17, Part 2 of Annex B to the Administrative Instructions Under the PCT provides that unity of invention is accepted as between claims to polypeptide sequences and claims to polynucleotide sequences encoding those polypeptides. Those Examples are cited in MPEP section 1893.03(d) at page 1800-149, column 2 ("[n]ote also examples 1-17 of Annex B Part 2 of the PCT Administrative Instructions...")

Thus, in the present case, unity of invention exists at least as between claims drawn to polypeptide sequences SEQ ID NO:1-54 (*i.e.*, claims 1, 2, 16-17, and 30-75) of Groups 1-46 and as to claims drawn to polynucleotide sequences which encode those polypeptides (*i.e.*, claims 3-7, 9, 11, 76-121, 122-167, and 184-192) of Groups 47-92.

Therefore, Applicants respectfully request that the Examiner withdraw the Restriction Requirement at least as to claims 1-7, 9, 11, 16-17, and 184-192, and examine those claims in a single application.

B. Unity of invention exists with respect to dependent claims in the same claim category as the independent claim from which they depend

MPEP section 1850(A) and 1893.03(d), which recite the provisions of paragraph (c) of Part 1 (entitled "Instructions Concerning Unity of Invention") of Annex B (entitled "Unity of Invention") to the Administrative Instructions Under the PCT, provides:

> **(A) Independent and Dependent Claims.**
>
> Unity of invention has to be considered in the first place only in relation to the independent claims in an international application and not the dependent claims. By "dependent" claim is meant a claim which contains all the features of another claim and is in the same category of claim as that other claim (the expression "category of claim" referring to the classification of claims according to the subject matter of the invention claimed for example, product, process, use or apparatus or means, etc.).
>
> (i) If the independent claims avoid the prior art and satisfy the requirement of unity of invention, no problem of lack of unity arises in respect of any claims that depend on the independent claims. In particular, it does not matter if a dependent claim itself contains a further invention....

See MPEP section 1850(A) at page 1800-61. See also MPEP Appendix AI at page 53.

In the present case, claims 2-8, 16 and 17, all of which depend from claim 1, are all directed to compositions of matter, *i.e.*, to products. All of these claims contain all of the features of the independent claim. Further, as discussed above, there is unity of invention as between claim 1 and claim 11. Finally, both claim 1 and claim 11 avoid the prior art, as discussed below.

Thus, it is improper to restrict claims 1, 2, 16 and 17 from claims 3-8 and 11, as the Examiner has done. Therefore, Applicants respectfully request that the Examiner withdraw the Restriction

Requirement at least as to the composition of matter claims, and that at least those claims be considered together in a single application.

III. Unity of invention exists as between all of Applicants' claims

MPEP 1850 provides:

> Unity of invention exists only when there is a technical relationship among the claimed inventions involving one or more special technical features. The term "special technical features" is defined as meaning those technical features that define a contribution which each of the inventions considered as a whole, makes over the prior art. The determination is made based on the contents of the claims as interpreted in light of the description and drawings. Annex B also contains examples concerning unity of invention.

Id at page 800-61.

MPEP 1893.03(d) similarly provides:

> A group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature. The expression special technical features is defined as meaning those technical features that define the contribution which each claimed invention, considered as a whole, makes over the prior art. For example, a corresponding technical feature is exemplified by a key defined by certain claimed structural characteristics which correspond to the claimed features of a lock to be used with the claimed key. Note also examples 1-17 of Annex B Part 2 of the PCT Administrative Instructions as amended July 1, 1992 contained in Appendix AI of the MPEP.

Id at page 1800-149.

In the present case, unity of invention exists among all of Applicants' claims. The claimed polypeptide sequences and the claimed polynucleotide sequences encoding them are corresponding technical features which are common to all of Applicants' claims, which serve to technically interrelate all of Applicants' claims, and which define the contribution over the prior art made by each of them. Thus, Applicants' claims are linked to form a single general inventive concept, and Applicants are therefore entitled to prosecute all of their pending claims in a single national stage application.

A. The claimed polypeptide sequences, and the claimed polynucleotide sequences encoding those polypeptide sequences, are corresponding technical features that are common to all of Applicants' claims and that serve to technically interrelate them

Applicants' claims recite *inter alia* the polypeptides SEQ ID NO:1-54, and polynucleotides encoding those polypeptides, which sequences include the polynucleotide sequences SEQ ID NO:55-108. See Table 1 of the specification. Applicants respectfully submit that the claimed polypeptide sequences SEQ ID NO:1-54, and the claimed polynucleotide sequences encoding them, are corresponding technical features, given that the former are encoded by the latter, and conversely, the latter encode the former.

Further, the claimed polypeptide and corresponding polynucleotide sequences are common to all of Applicants' claims, given that each claim refers to one or both either explicitly or implicitly, by virtue of depending from a claim which makes an explicit reference to the claimed sequences.

Moreover, the claimed polypeptide and corresponding polynucleotide sequences serve to technically interrelate all of Applicants' claims. Applicants' composition of matter claims (1-8, 10, 11, 16 and 17) are drawn to either the polypeptide and polynucleotide sequences themselves (1 and 2, drawn to polypeptide sequences, and 3-5 and 11, drawn to polynucleotide sequences), to compositions of matter which comprise the sequences as one element (6-8, drawn to recombinant polynucleotide sequences, transformed cells, and transgenic organisms, respectively, and 16 and 17, drawn to pharmaceutical compositions), or to compositions of matter wherein the claimed sequences functionally limit the claimed subject matter (claim 10, drawn to antibodies which specifically bind a polypeptide of claim 1).

In Applicants' method claims (9, 13, 15, 19, 22, 25, 26 and 28), the claimed sequences serve as either the product of the claimed method (claim 9, drawn to a method of polypeptide production) and/or as a reagent for performing the method (claims 19, 22, 25 and 26, drawn, respectively, to methods of screening for agonists, antagonists, compounds which specifically bind, or compounds which modulate the activity of, a polypeptide of claim 1; and claims 13, 15, and 28, drawn, respectively, to methods of detecting a target polynucleotide in a sample, and to a method for assessing toxicity of a test compound).

Therefore, the claimed polypeptide and polynucleotide sequences are corresponding technical features which are common to all of Applicants' claims, and which serve to technically interrelate them.

In sum, the claimed polypeptide sequences and the claimed polynucleotide sequences which encode them are corresponding technical features which are common to all of Applicants claims, which serve to technically interrelate all of Applicants' claims, and which define the contribution over the prior art made by each of them. Thus, Applicants' claims are linked to form a single general inventive concept, and Applicants are therefore entitled to prosecute all of their pending claims in a single national stage application. Withdrawal of the restriction requirement in the present case is therefore respectfully requested.

Rejoinder

Applicants submit that claims 13 and 15 (Group 214) and claim 29 (Group 674) are methods of using the polynucleotides of Group 76, which should be examined together with the polynucleotides of Group 76, per the Commissioner's Notice in the Official Gazette of March 26, 1996, entitled "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)" which sets forth the rules, upon allowance of product claims, for rejoinder of process claims covering the same scope of products.

Docket No.: PF-0722 USN

CONCLUSION

In light of the above remarks, Applicants submit that the present application is fully in condition for allowance. Early notice to that effect is earnestly solicited.

If the Examiner contemplates other action, or if a telephone conference would expedite allowance of the claims, Applicants invite the Examiner to contact the undersigned at the number listed below.

Applicants believe that no fee is due with this communication. However, if the USPTO determines that a fee is due, the Commissioner is hereby authorized to charge Deposit Account No. **09-0108.**

Respectfully submitted,

INCYTE CORPORATION

Date: January 12, 2004

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